

Press Release

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Seattle PAP helps newborns with mild respiratory distress syndrome

Dräger launches new respiratory support system for newborns

- Dräger presents its new respiratory support device Seattle PAP at Arab Health in Dubai (from January 28th to 31st 2019).
- Seattle PAP is a patented innovation developed in the USA for the treatment of respiratory distress symptoms in babies and children.
- It helps respond to the global need for an affordable, easy-to-use and easy-to-maintain respiratory support system for Neonatal Care.

Lübeck – Worldwide, more than one million newborns die each year from respiratory distress. Most of these deaths occur in countries where there are limited resources and access to effective respiratory support methods and devices.¹ The transfer of knowledge and skills is important. Companies like Dräger and others who are truly committed to saving babies' lives can help by supporting institutions, providing training and teaching people to use this equipment.

Bogale Worku (MD), Executive Director of the Ethiopian Pediatric Society clarifies: "The specific challenges in Africa are the resources. Very tiny babies require oxygen delivery and babies in severe respiratory distress are in need of continuous positive airway pressure (CPAP). And many times, human resources who have adequate skills and knowledge on the equipment is lacking."

Stefanie Wagner, Senior Product Manager, Drägerwerk AG & Co. KGaA, explains: "With social responsibility in mind, we at Dräger offer innovative solutions for those in need. Seattle PAP can be seen as a great example of this with the potential to decrease newborn mortality rates. By combining our expertise in Neonatal and Respiratory Care with the strengths of global health innovators like the Seattle Children's Research Institute and the support of the

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1 Lawn JE, Blencowe H, Oza S, You D, Lee AC, Waiswa P, et al. Every Newborn: progress, priorities, and potential beyond survival. Lancet. 2014; 384(9938):189–205. [https://doi.org/10.1016/S0140-6736\(14\)60496-7](https://doi.org/10.1016/S0140-6736(14)60496-7) PMID: 24853593.

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Bill & Melinda Gates Foundation, we support the common goal to reach the United Nations Sustainable Development Goals to help reduce newborn mortality rates.”

“Seattle PAP is a great example of the potential to bring innovation to neonatal care units in low resource settings. We look forward to seeing this product, the result of a successful public-private partnership, have impact in the field”, explains Rasa Izadnegahdar, Deputy Director of Global Health at the Bill & Melinda Gates Foundation. Seattle PAP is ready for use in just a few operational steps. This way, hospital staff can employ the system without the need for extensive trainings. As a disposable item, it also may help to reduce the risk of infections.

How Seattle PAP works

[Seattle PAP](#) is a non-invasive respiratory support system. It consists of a bubble box, a rising pipe angled at 135 degrees, a pressure relief valve, a breathing circuit and can be used in combination with nasal prongs and mask. The system supports spontaneous breathing by delivering a continuous, positive pressurized gas flow from a flow and oxygen source to the baby’s airways. The baby breathes through the nasal prongs. The exhaled air escapes through the rising pipe that is submerged in the bubble box. The resistance produces a continuous mean airway pressure and it forms bubbles in the water container. When they burst, small airway pressure oscillations occur that enhance gas exchange and reduce the work of breathing.

What distinguishes Seattle PAP from B-CPAP

The patented Seattle-PAP Bubble CPAP System is designed to create continuous positive airway pressure and pressure oscillations. The 135° angle in the submersed tubing increases the amplitude of oscillations, thus providing effects similar to high frequency oscillatory ventilation for improving gas exchange and offer more efficient respiratory support compared to other

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methods of non invasive respiratory support.^{2,3} These oscillations are thought to lessen the work required from respiratory muscles, which would make it easier for babies to breathe.^{4, 5, 6, 7}

Seattle PAP is manufactured by Drägerwerk AG & Co. KGaA.

Dräger. Technology for Life®

Dräger is an international leader in the fields of medical and safety technology. Our products protect, support and save lives. Founded in 1889, Dräger generated revenues of around EUR 2.6 billion in 2017. The Dräger Group is currently present in more than 190 countries and has more than 13,000 employees worldwide. Please visit www.draeger.com for more information.

Note: The products mentioned in this press release are not available worldwide. Equipment packages may vary from country to country. Changes in products possible without prior notice. For more information on availability in countries other than Germany, please visit the website for your country or contact the local Dräger Sales organization.

2 Mechanisms of gas transport during ventilation by highfrequency oscillation. J Appl Physiol 1984;56(3):553-563, Chang HK.

3 High-Frequency Oscillatory Ventilation: Theory and Practical Applications, Jane Pillow, Dräger Booklet 9102693 from 2016

4 Short term evaluation of respiratory effort by premature infants supported with bubble nasal continuous airway pressure using Seattle-PAP and a standard bubble device. PLOS ONE, March 28, 2018, Stephen E. Welty, Craig G. Rusin, Larissa I. Stanberry, George T. Mandy, Alfred L. Gest, Jeremy M. Ford, Carl H. Backes, Jr, C. Peter Richardson, Christopher R. Howard, Thomas N. Hansen, Charles V. Smith

5 Bubble CPAP: is the noise important? An invitro study. Pediatr Res 2005; 57(6):826-830. Pillow JJ, Travadi JN.

6 A comparison of underwater bubble CPAP with ventilator derived CPAP in premature neonates ready for extubation. Biol Neonate 1998; 73(2):69-75, Lee KY, Dunn MS, Fenwick M, Shennan AT.

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